SAFONOV, N., polkovnik; TIMOSHEVSKIY, N., podpolkovnik

Improve trade facilities for soldiers. Tyl i snab.Sov.Voor.Sil 21 no.3:50-53 Mr '61. (MIRA 14:6)

(Russia--Army--Commissariat)

ZAMALIN, V.S., inzh.; TIMOSHEVSKIY, V.I.

Determining technical and economic efficiency of standardization in the machinery industry. Mekh.i avtom.proizv. 17 no.1:36-38 N '63. (MIRA 17:4)

TIMOSHEVS'KYL, Volodymyr.

(The road to catastrophe. Events in Rovno. Uprising of ataman Oskilko)
Viden'-Kyiv, nakl. Ukrains'-koi partii samostiinykiv-sotsiialistiv, 1920.

20 p.

1. Ukraine - History - Revolution.

TIMOSHIK, M.M.

Electric conductivity of CdJ_2 condensates. Nauk. zap. L'viv. un. 33:
11-14 '55.
(MLRA 10:6)
(Cadmium iodide--Electric properties)

[illegible]

USSR / Electricity G

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9688

Author : Timoshik, M.M.
Inst : Not given
Title : Electric Conductivity of Condensates of CdI_2

Orig Pub : Fiz. zvirnik. L'vivs'k. un-t.-t. fiz. sb. L'vovsk. un-t, 1955, vyp. 1, (6) 11-14

Abstract : The electric conductivity of condensates of vapor of CdI_2 depends on the material of the electrodes. If the electrodes are passive, then a finally-dispersed layer of condensate does not change its properties, and its resistance remains constant. Relative to a condensate of CdI_2, glass, mica, and aluminum or nickel linings are passive. Active linings enter into chemical reaction with the condensate, and as a result they change their properties and the finally-dispersed microstructure. If one of the electrodes is active, the resistance changes with time and depends on the

Card : 1/2

USSR / Electricity

G

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9699

Abstract : the p-n junction from a hole-type semiconductor into an electronic one and vice versa, and unlike in preceding investigations by other workers, the most actual case is analyzed, when the concentrations of the minority and majority carriers are comparable in magnitude and the recombination of the carriers is bimolecular. The dependence of the emission ability γ^0 (where γ^0 is the fraction of the current carried by the minority carriers on the boundary of the p-n junction) on the current is ascertained and conditions are formulated under which the current is carried primarily by minority carriers. An estimate is made of the depth of the region of increased conductivity.

Card : 2/2

USSR/Physical Chemistry - Crystals, B-5

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 260

Author: Timoshik, M. M.

Institution: Lvov University

Title: Electrical Conductivity of Sublimated CdI_2

Original Periodical: Fiz. sb. L'vovsk. un-ta, 1955, Vol 33, No 1 (6), 11-14 (published in Ukrainian with Russian summary)

Abstract: Films of CdI_2 (I) sublimed onto cold strips show a fine crystalline structure and exhibit semiconductive properties. Films of (I) do not change their structure or resistance on glass, mica, Al and Ni (passive substrates), and react rapidly with an Ag-, and particularly with a Zn-substrate. During this reaction, all the properties of the film change and its resistance drops several orders of magnitude. The product of the reaction of (I) with Zn shows ionic conductivity. A sublimate of (I) on an Al substrate with a Zn surface electrode shows unipolar ionic conductivity, the direction of conduction being from Zn to Al.

Card 1/1

TIMOSHIK, M.M.

Intensity of the adsorption-interference evaporation of ionized salts. Dop. ta pov. L'viv. un. no.5 pt.2:80-82 '55. (MLRA 9:10)

(Salts) (Evaporation)

TIMOSHIN, A.G.

Dermatitis caused by poisonous badian Illicium religiosum. Vest.derm.
i ven. 32 no.1:78 Ja-F '58. (MIRA 11:4)
(SKIN--DISEASES) (ILLICIUM RELIGIOSUM)

TIMOSHIN, A.G.

Poisonous fishes in the Black Sea. Vest. derm. i ven. 34 no.7: 64-65 '60. (MIRA 13:12)
(SKIN--DISEASES) (BLACK SEA--FISHES)

TIMOSHIN, A.G.

Use of antibiotics containers. Lab.delo 6 no.3:58 My-Je '60.
(MIRA 13:7)
(BIOLOGICAL SPECIMENS--COLLECTION AND PRESERVATION)

TIMOSHIN, A.P., inzh.

Do not use unfinished gas pipelines. Stroi. truboprov. 7 no.7:4 Jl '62. (MIRA 15:7)

1. Teplotekhstantsiya, Moskva.
(Moscow Province--Gas, Natural--Pipelines)

TIMOSHIN, A. S.

Timoshin, A. S.- "The utilization of local phosphorites for the soil of the Kursk Oblast," Sbornik rabot Kurskoy obl. kompleks. s.-kh opyt. stantsii. Kursk, 1948, p. 26-36, - Bibliog: 15 items

SO: U-4934, 29 Oct 53, (Letopis 'Zhurnal'nykh Statey, No. 16, 1949).

GORODENSKIY, S.N.; KATETSKAYA, A.P.; KRYLOV, V.I.; LUKIN, I.I.;
LYUBIMOV, V.V.; MAKSIMOV, N.V.; SAVVIN, L.G.; TIMOSHIN, A.V.;
SHEVELEV, P.N.

Professor G.I. Shturman; on his 60th birthday. Elektrichestvo no.11:87 N '63. (MIRA 16:11)

L 00666-67 EWT(1) GW

ACC NR: AP6005352 SOURCE CODE: UR/0413/66/000/001/0093/0094

AUTHORS: Timoshin, Yu. V.; Timoshin, B. V.

54

ORG: none

B

TITLE: A device for the automatic processing of information, such as data obtained by a method of seismic exploration with continuous harmonic radiation. Class 42, No. 177644

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1966, 93-94

TOPIC TAGS: seismograph, seismologic instrument, information processing, data processing equipment, automatic programming

ABSTRACT: This Author Certificate presents a device for the automatic processing of information, such as data obtained by a method of seismic exploration with continuous harmonic radiation. The device includes a data input unit, a rectification unit, a storage device, a control unit, a calculating device, and a plotter of the final information (see Fig. 1). The design provides for conversion of the data obtained in the form of phase and amplitude of the vibrations in correlated sections of the profile to seismic dislocations at depth. A vibration reconstruction unit is included in the device. This unit is connected to the control unit and to the sonic frequency generator. It operates at a frequency of the vibrations received or at a multiple of this frequency, and it is connected to groups consisting of

Card 1/2

UDC: 550.340.8

L 00666-67

ACC NR: AP6005352

amplitude regulators. This insures the alternating voltages to be of amplitudes which are equal to or proportional to the amplitudes of the vibrations being observed. The groups also include phase inverters which provide summation of the vibrations in each group for all observation points with specified phase shifts. The outputs of the phase inverters are connected together and, through diodes which fulfill the role of vibration detectors, are connected to amplitude comparators. The amplitude comparators provide a comparison of the amplitude of the rectified vibrations. The outputs of the comparators are connected through selectors with the input of the plotter of the final information.

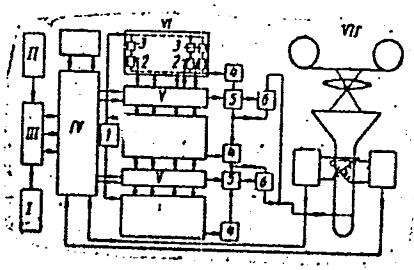

Fig. 1. I - data input unit; II - rectification unit; III - storage device; IV - calculating device; V - control unit; VI - vibration reconstruction unit; VII - plotter of the final information; 1 - sonic frequency generator; 2 - phase inverters; 3 - amplitude regulators; 4 - detectors; 5 - amplitude comparators; 6 - selectors

Orig. art. has: 1 figure.

SUB CODE: 08, 17/ SUBM DATE: 01Dec64

Card 2/2

TIMOSHIN, D.

The radio amateurs of Sumsk make a contribution to agriculture.
Radio no.7:14 Jl '62. (MIRA 16:6)

1. Nachal'nik Sumskogo radiokluba.
(Electronics in agriculture)

YEMEL'YANOV, Ye.; BOCHAROV, M.; VOZNYUK, V.; TIMOSHIN, D.

Towards new achievements. Radio no.8:3 Ag '62. (MIRA 15:8)

1. Nachal'nik Novosibirskogo radiokluba (for Bocharov).
2. Predsedatel' soveta Novosibirskogo radiokluba (for Voznyuk).
3. Nachal'nik Sumskogo radiokluba (for Timoshin).
(Radio operators)

TIMOSHIN, D.G.

KROTOV, A.I.; TIMOSHIN, D.G.

Tests of new preparations of vegetable origin in ascariasis of cats. Med.paraz. i paraz.bol. 26 no.1:80-82 Ja-F '57. (MIRA 10:6)

1. Iz sektora eksperimental'noy parazitologii Instituta malyarii, meditsinskoy parazitologii i gel'mintologii Ministerstva zdravookhraneniya SSSR (dir. instituta - prof.P.G.Sergiyev, zav. sektorom prof. V.P.Pod"yapol'skaya)

(ANTHELMINTICS
testing of anthelmintics of vegetable origin in ascariasis of cats)

KROTOV, A.I.; KOLOSOVA, M.O.; TIMOSHIN, D.G.

Studies on the anthelmintic activity of Russian and foreign dithazines (3,3'-diethylthiadicarbocyanine iodide) in helminth infections in animals. Med.paraz.i paraz.bol. 29 no.6:647-650 '60.
(MIRA 14:2)

1. Iz gel'mintologicheskogo otdela i otdela sinteticheskikh preparatov Instituta meditsinskoy parazitologii i tropicheskoy meditsiny imeni Ye.I. Martsinovskogo Ministerstva zdravookhraneniya SSSR (dir. instituta - prof. P.G. Sergeyev, zav. otdelami - prof. V.P. Pod"yapol'skaya i prof. V.I. Stavrovskaya).
(ANTHLEMINTICS) (CARBOCYANINE IODIDE)

TIMOSHIN, D.G.

Conditions favorable for the emergence of Ascaris lumbricoides larvae from eggs. Med.paraz. i paraz. bol. 25 no.3:239-244 Jl-S '56.

1. Iz sektora eksperimental'noy parazitologii Instituta malyarii, meditsinskoy parazitologii i gel'mintologii Ministerstva zdravookhraneniya SSSR (dir. instituta - prof. P.G.Sergiyev, zav. sektorom - prof. V.P.Pod"yapol'skaya)
(ASCARIS,
lumbricoides eggs, eff. of various cond. on hatching
(Rus))

TIMOSHIN, D.G.

Preparation of helminth larva and egg specimens. Med. paraz. i paraz. bol. no.2:174-175 Ap-Je '54. (MLRA 7:8)

1. Iz sektora eksperimental'noy parazitologii instituta malyarii, meditsinskoy parazitologii i gel'mintologii Ministerstva zdravookhraneniya SSSR (dir. instituta prof. P.G.Sergiyev, zav. sektorom prof. V.P.Pod"yapol'skaya)
(HELMINTHS,
*eggs & larvae, prep. of specimens)

TIMOSHIN, D. G.

"A Biological Approach to the Solution of Some Problems of the Epdemiology of Ascariasis."

Tenth Conference on Parasitological Problems and Diseases with Natural Reservoirs, 22-29 October 1959, Vol. II, Publishing House of Academy of Sciences, USSR, Moscow-Leningrad, 1959.

Institute of Medical Parasitology and Tropical Medicine, Moscow

DATSKOVSKIY, S.Sh.; TIMOSHIN, D.Ya., inzh.

Parts and articles made of fibrous materials. Vest.mast. 42 no.1:52-55 Ja '62. (MIRA 15:1)
(Paperboard)

GALIMOV, M.D.; BABADZHAN, A.A.; BERENOV, S.V.; TIMOSHIN, D.Ya.; SAVIK, A.Ya.

Converter dust screen with water cooling. Biul. TSIIN tsvet. met.
no.4:31-32 '58. (MIRA 11:5)
(Converters) (Dust collectors--Cooling)

TIMOSHIN, I., gornyy tekhnik.

Valuable initiative. Mast.uglia 5 no.1:8 Ja '56. (MLRA 9:5)

1. Nachal'nik uchebnogo punkta shakhty No. 3 "Dobropol'ye" Stalinskoy oblasti.

(Donets Basin--Coal mines and mining)

TIMOSHIN, I.M.

Establish new instructions for coal miners. Bezop. truda v prom. 2 no.2:37 F '58. (MIRA 11:2)

1. Nachal'nik uchebnogo punkta shakhty No.3 "Dobropol'ye," Donbass.
(Coal mines and mining--Safety measures)

TIMOSHIN, I.M.

Eliminating external air leakage. Bezop.truda v prom. 4
no.1:34 Ja '60. (MIRA 13:5)

1. Nachal'nik uchebnogo punkta shakhty No.3 "Dobropol'ye" tresta Krasnoarmeyskugol'.
(Dobropol'ye—Mine ventilation)

TIMOSHIN, I.M., inzhener.

Provide safety spaces in mining. Bezop.truda v prom. 1 no.7:29 Jl '57. (MIRA 10:7)

1. Chlen tekhnicheskogo soveta shakhty No. 3 "Dobropol'ye" tresta Krasnoarmeyskugol'.

(Coal mines and mining--Safety measures)

KUBRAK, P.V.; TIMOSHIN, I.M.

[redacted]

Improving methods of roof control in stopes. Ugol' 31 no.6:23-24
Je '56. (MLRA 9:8)
(Donets Basin--Coal mines and mining)(Mine timbering)

SOV/120-59-4-6/50

AUTHORS: Kuznetsov, Ye. V., ~~Timoshin, I. Ya.~~

TITLE: A Xenon Bubble Chamber

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 4, pp 40-44 and 1 plate (USSR)

ABSTRACT: A description is given of a xenon bubble chamber with a working volume of 20 x 11 x 10 cm^3. The chamber is shown in Fig 1 and is made of a single piece of stainless steel. The chamber is cooled by 8 channels drilled through it. The channels are connected in series with the RKF-0.9 refrigerating machine which forms a part of the installation. Thermal insulation of the chamber is obtained by means of sheets of plastic foam. The viewing glasses are made of plexiglass 45 mm thick. The membranes M_1 and M_2 are made of soft rubber 4 mm thick and the packing between the glass and the body is made of hard rubber 2 mm thick. A safety valve (Fig 2) is attached to the upper wall of the chamber. The charged particles are let in through the cap 3 which is made of dural 8.5 mm thick and has a diameter of 80 mm. The particle tracks are photographed by a camera 8. Fig 5 shows a typical photograph obtained for 290 Mev π^+-mesons. A detailed description is given of the valve and the supply systems.

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SOV/120-59-4-6/50

A Xenon Bubble Chamber

A. G. Meshkovskiy, A. I. Alikhanov and Yu. V. Bardyukov are thanked for assistance and interest. There 4 figures and 4 references, of which 1 is Soviet and 3 are English.

SUBMITTED: July 11, 1958.

Card 2/2

SOV/120-59-1-33/50

AUTHORS: Kuznetsov, Ye. V., Timoshin, I. Ya.

TITLE: The Use of Carbon Dioxide as the Working Liquid in a Bubble Chamber (Ispol'zovaniye uglekisloty v kachestve rabochey zhidkosti dlya puzyr'kovoy kamery)

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 1, p 132 (USSR)

ABSTRACT: In some cases, for example, in experiments connected with the theory of isotopic spin, experiments on the determination of the parity of particles, as well as in experiments with polarized particles, carbon dioxide is very useful as the working liquid in a bubble chamber since the spins and the isotopic spins of C^{12} and O^{16} are zero while their masses are not very different. In this respect a carbon dioxide chamber is analogous to a helium chamber. The present authors have investigated the possibility of using such a chamber. The volume of the chamber was 2.5 litres. The compression time was 8×10^{-3} sec and the decompression time was equal to it. It turned out that the chamber was sensitive to ionising radiations for saturated vapour pressures in the interval 37.5-48.5 atm which corresponds to the temperature interval 3.5-13.5°C. At 13.5°C the limiting pressure was 36 atm. It must be noted that carbon dioxide dissolves in plexiglass and rubber. This

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SOV/120-59-1-33/50

The Use of Carbon Dioxide as the Working Liquid in a Bubble Chamber

is not important during the actual working of the chamber but leads to difficulties after the working liquid has been removed from the chamber and the latter cannot be used again. If for some reason the working liquid has to be removed from the chamber then the windows must be made from ordinary glass and polyethylene. There are no figures or references.

SUBMITTED: January 25, 1958.

Card 2/2

L 4237-66 EWT(m)/EPA(w)-2/EWA(m)-2 IJP(c) GS S/0000/64/000/000/1065/1072 51 B+1

ACCESSION NR: AT5007979

AUTHOR: Abramyan, Ye. A.; Bender, I. Ye.; Bondarenko, L. N.; Budker, G. I.; Glagolev, G. B.; Kadymov, A. Kh.; Neshkov, I. N.; Naumov, A. A.; Pal'chikov, V. Ye.; Panasyuk, V. S.; Popov, S. G.; Protopopov, I. Ya.; Rodionov, Yu. I.; Samoylov, I. M.; Skrinskiy, A. N.; Yudin, L. I.; Kon'kov, N. G.; Mostovoy, Yu. A.; Nezhavenko, O. A.; Ostreyko, G. N.; Petrov, V. V.; Sokolov, A. A.; Timoshin, I. Ya.

TITLE: Work on the strong-current accelerators of the Nuclear Physics Institute, SO AN SSSR. (I) Strong-current pulse accelerators with spiral storage of the electrons. (II) Strong-current accelerators with one-revolution capture of the injected electrons

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy. Moscow, Atomizdat, 1964, 1065-1072

TOPIC TAGS: high energy accelerator, electron accelerator, electron beam, betatron, plasma

ABSTRACT: The work on developing strong-current electron ring accelerators was begun in 1965 by the authors at the Nuclear Physics Institute, Siberian Department, Academy of Sciences SSSR, with the object of studying the possibility of

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L 4237-66

ACCESSION NR: AT5007979

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forming relativistic stabilized beams. In the laboratories of the Institute experimental studies were carried out on the four methods for obtaining large ring currents of relativistic electrons: (1) spiral method of storing the electrons in installations of the betatron type with subsequent betatron synchrotron acceleration (Budker G. I. CERN Symposium 1, 68 (1956); (2) obtaining of limiting electron currents by means of the injection of electrons from a strong-current linear accelerator into a ring chamber of large aperture with subsequent synchrotron acceleration; (3) storage of electrons in tracks (parking orbits) with constant magnetic field by means of the multiple injection of electrons from another less strong-current accelerator; this method is utilized for the storage of electrons and positrons in experiments with colliding beams (expounded in detail by G. I. Budker in the present collection, p. 274); (4) obtaining of large electron currents by means of the acceleration of electrons by a ring plasma. The present report discusses the first two methods under the following topics: (I) pulsed iron-less betatron with preliminary charge storage (Б-2 device); strong-current pulsed synchrotron B-2S; pulsed strong-current betatron with spiral storage (B-3 device). (II) iron-less one-turn strong-current synchrotron (BSB); strong-current pulsed synchrotron B-3M. Orig. art. has: 7 figures.

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L 4237-66
ACCESSION NR: AT5007979

ASSOCIATION: Institut yadernoy fiziki SO AN SSSR (Nuclear Physics Institute, SO AN SSSR)

SUBMITTED: 26May65 ENCL: 00 SUB CODE: NP

NO REF SOV: 001 OTHER: 001

Card 3/3

L 29307-66 EWT(m) IJP(c) GD

ACC NR: AT6012261 SOURCE CODE: UR/0000/65/000/000/0001/0013

AUTHORS: Budker, G. I.; Dimov, G. I.; Popov, A. G.; Sviridov, Yu.K.; Sukhina, B. N.; Timoshin, I. Ya.

53

ORG: Institute of Nuclear Physics, Siberian Department AN SSSR (Institut yadernoy fiziki Sibirskogo otdeleniya AN SSSR)

B+1

TITLE: Experimental investigation of charge-exchange injection of protons in annular accelerators and storage rings

19

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut yadernoy fiziki. Doklady, 1965. Eksperimental'noye issledovaniye perezaryadnoy inzhektsii protonov v kol'tsevyyee uskoriteli i nakopiteli, 1-13

TOPIC TAGS: charge exchange, proton accelerator, energy scattering, circular accelerator

ABSTRACT: The authors describe experiments on the accumulation of protons in an annular track by means of a charge exchange (Fig. 1). A beam of atoms or negative ions of hydrogen is introduced on a proton orbit in a magnetic field at the point where it crosses a hydrogen jet. The particles lose electrons in the jet and are accumulated on the orbit in the form of protons. The protons passing many times through the jets lose energy and are scattered. In a constant magnetic field the time of

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L 29307-66

ACC NR: AT6012261

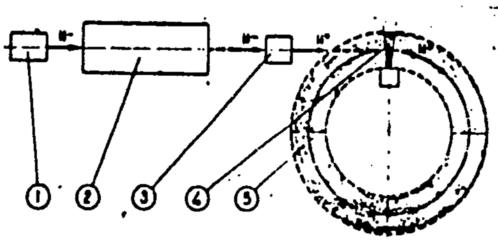

Fig 1. Diagram of experimental setup. 1 - Source of negative hydrogen ions, 2 - accelerator, 3 - input gas target, 4 - jet of hydrogen on orbit, 5 - storage ring

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L 29307-66

ACC NR: AT6012261

0

accumulation is limited by the loss of the circulating protons to the inner wall of the storage ring. If the average energy loss is compensated for, the storage time is limited by elastic scattering and by the energy scatter of the protons. The experimental setup was described elsewhere (Mezhdunarodnaya konferentsiya po uskoritelyam Dubna, 1963, [International Conference on Accelerators], Moscow, 993 -- 996, 1964). Methods of measuring the proton current and the proton lifetime in the storage ring are briefly described. Various parts of the experimental setup are described in detail. The ion source was a modified electrostatic generator. Up to 10^{12} protons could be accumulated in the betatron loop (current ~ 1 ampere). The injection efficiency was close to 100%. Hydrogen and carbon dioxide were used for the input targets, with optimal thickness 2.5×10^{16} and 3×10^{15} mol/cm^2. An accelerating voltage of 200 v was applied in pulses of 500 μsec duration, so that accumulation for 2500 revolutions was possible. The loop current increased approximately linearly to 300 ka. The various sources of losses are briefly analyzed. Orig. art. has: 8 figures and 7 formulas.

SUB CODE: 20/ ORIG REF: 001/ OTH REF: 001

Card 3/3 BK

1

L 25774-66 EWT(m) IJP(c)

SOURCE CODE: UR/0089/65/019/006/0507/0510

ACC NR: AP6016378

AUTHOR: Budker, G. I.; Dimov, G. I.; Popov, A. G.; Sviridov, Yu. K.; Sukhina, B. N.; Timoshin, I. Ya.

34
B

ORG: none

TITLE: Experiments with charge exchange injection of protons in a storage ring

SOURCE: Atomnaya energiya, v. 19, no. 6, 1965, 507-510

TOPIC TAGS: Van de Graaff accelerator, proton, hydrogen ion

ABSTRACT: Negative hydrogen ions were extracted from a high frequency source and were accelerated in a Van de Graaff machine to 12 μamp. This beam then struck a neutralizing gas target of hydrogen or carbon dioxide having an optimum thickness of 2.5×10^{16} or 3×10^{15} molecules/cm^2 respectively. The resulting beam of neutral hydrogen atoms then struck a jet of hydrogen having a thickness of $\sim 10^{17}$ atoms/cm^2. The hydrogen jet was directed along a radius from the center of a storage ring with an aperture of 8 X 4 cm and an orbital radius of 42 cm. The particle losses did not exceed a few percent with injections up to 1500 revolutions. The orbital current increased linearly for the first 100 revolutions and remained constant for ~150 revolutions. During this period the orbital radius of the beam decreased and then struck the internal hydrogen stream. Thus the injection efficiency was close to 100%. These preliminary results indicate that it is possible to accumulate a proton current that is limited only by the space charge. Orig. art. has: 5 figures. NA

SUB CODE: 20 / SUBM DATE: none

2

Card 1/1

TIMOSHIN, L. A.

Small-bore ceramic tubes. A. I. Mel'nikov and L. A. Timoshin. U.S.S.R. 105,731, May 25, 1957. The ceramic mass is deposited electrophoretically on a metal core of the desired shape from a suspension. The whole is then fired and the core removed.

3

4E2c

TIMOSHIN, L. A.

Vacuum sealing of alundum products. G. A. Metlin and L. A. Timoshin. U.S.S.R. 106,695, July [illegible]. To insure vacuum tightness [illegible] they are [illegible] vacuum.

Timoshin, L. A.,

Insulation for tungsten wire resistances. [illegible] A. Metlin and L. A. Timoshin. U.S.S.R. 106,823, Aug 25, 1957. The insulation comprises 2 coatings. The 1st coating is made with an Al-Zr silicate base and the other is of aluminum with an admixt. of talcum. M. Hosch

4E2c

AUTHOR: Timoshin, L. A. 48-22-5-21/22

TITLE: The Construction of a Vibration-Proof Heater With a Greater Charging Time for High-Temperature Cathodes (Konstruktsiya vibroprochnogo podogrevatelya s povyshennym srokom sluzhby dlya vysokotemperaturnykh katodov)(Data From the VIII. All-Union Conference on Cathode Electronics, Leningrad, October 17-24, 1957)(Materialy VIII Vsesoyuznogo soveshchaniya po katodnoy elektronike, Leningrad, 17-24 oktyabrya 1957 g.)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1958 Vol. 22, Nr 5, pp 640-641 (USSR)

ABSTRACT: The unsatisfactory quality of heaters often limits the charging time and the vibration-proof properties of some new apparatuses with L-cathodes. The construction and a typical view of the waste of such a heater is described. Such a waste has not been observed in heaters with an oxide-cathode. The author had been set the task of developing a heater for high temperature cathodes with high mechanical stability, which could outlast a charging time of at least 5 000 hours. According to literature the destruction occuring in the alundum-layer may be caused by the following processes:

Card 1/3

The Construction of a Vibration-Proof Heater With a Greater Charging Time for High-Temperature Cathodes 48-22-5-21/22

a) direct interaction of tungsten and alundum (references 1-3), b) the electron-bombardment of tungsten from the core of the cathode, whereby tungsten ions appear. According to reference 4 a heater coating without any pores eliminates almost all negative effects of the electron bombardment; c) the presence of oxygen which has been absorbed through the alundum-coating. Without discussing these three views at any length the author follows the opinion that the provision of a vacuum-tight insulating coating without any pores would be most effective in this case. He therefore does neither use heat-proof enamels, nor does he fuse the alundum coating (reference 4). He chooses the selection of oxide mixtures and a study of their properties. A mixture of alundum and berryllium-oxide (1 mole each) which melts at 1850-1900°C has yielded the best results. The technology of production is described. The quality of such heaters was high, their charging time up to 4200 hours.

Card 2/3 I. L. Gandel'sman, G. G. Shamayev, O. Ya. Mlodik and the

48-22-5-21/22

The Construction of a Vibration-proof Heater With a Greater Charging Time for High-temperature Cathodes

author took part in the discussion of the abstract. There are 5 references.

1. Filaments--Design 2. Filaments--Vibration 3. Filaments--Coatings
4. Sintered aluminum coatings--Failure

Card 3/3

#610 Eng

Tilgner, J. T.

Timoshin, ~~D. I.~~ L. A.

END